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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D.C.

REPLY TO ATTN OF: AFDSD-AT

SUBJECT: (U) Exploitation of Initial SAMOS Data

JUN 1 1960

TO: ARDC

INFO TO: CINCSAC ADC AMC AFBMD

1. By letter of 20 April 1960, the Director of Defense, Research and Engineering approved in principle the Research and Development Plans for DISCOVERER, SAMOS and MIDAS, dated 15 January 1960. Separate correspondence as to specific changes and funds pertaining to this approval is being prepared; however, questions of operational command, operational facilities and user relationships for the SAMOS reconnaissance satellite continue to be matters of considerable discussion.

2. The Under Secretary of the Air Force directed on 27 May 1960 that the R&D exploitation and operational plans for SAMOS be re-evaluated. The Under Secretary stated that there is considerable technical uncertainty as to the character and quality of the information that may be obtained by the different payloads of this system and that the operational interest and the character of the initial operational programs will be strongly conditioned by the results of the R&D program. He noted that a very elaborate plan had been originally conceived for the operational control, data handling, data utilization, data volume, and data display elements of the SAMOS and MIDAS operational systems, but that approval of such a plan with authorization for expenditure of funds has not been forthcoming. This delay has occurred because of concern that the assumptions on such items as technical capabilities, schedules, data quality, frequency of coverage, payload reliability and lifetime, computer requirements, optimum camera types, etc., are open to considerable question and can affect in a major way the type of operational system that will ultimately be required. If, as a result of the R&D experimental flight program, recovery rather than readout turns out to be the best primary means for satisfying the bulk of the operational requirements, then the ground complex required for handling such data will be enormously simpler than if complete reliance is placed on readout to meet these requirements.

3. It is directed that a revised SAMOS Development Plan be prepared and submitted as soon as possible within the ground rules specified below. Deviations for valid reasons will be considered and may be presented as alternate plans.

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a. In order to have parallel R&D tests of readout and recovery systems, re-examine all applicable camera equipment, both on the shelf and in development, and make recommendations for the introduction of an additional recoverable payload development program with associated schedules and cost.

b. Endeavor to achieve the earliest flight dates for the different payloads with priorities in this order: photographic recovery, photographic readout, ferret. Consideration is to be given to possible delaying elements and added insurance against such delays.

c. Make provision for the minimum essential capability to handle in a reasonable fashion any operational take from the R&D flights:

(1) Include facility details, schedules, costs, manpower, and subsystem descriptions.

(2) Initial readout is limited to two sites.

(3) No wide-band data links authorized except Vandenberg-Sunnyvale.

(4) No provision is to be made for alternate satellite control centers: control to be exercised originally from Sunnyvale center.

(5) Capability will be limited to that required to handle one operating readout satellite at a time.

(6) System should be planned to permit growth capacity if R&D program results are promising and decision is made later to use readout primarily.

(7) Processing capability should be adequate for recovered as well as readout data.

(8) Personnel staffing and training should be geared to the modified program. The present activities in this regard appear to be completely out of scale and out of phase time-wise.

(9) Provision will be made only for essential elements of subsystem I. Complexity and computer requirements introduced into this subsystem as a result of ferret payloads should be carefully reassessed. The very limited value of possible data from F-1 and F-2 militates against sophisticated data handling system. Subsystem I appears to have been greatly over-engineered, at least for the ferret aspects of the program.

(10) Computer programming problems, schedules and computer requirements for photographic readout payloads will be re-evaluated to determine whether it is reasonable to anticipate extensive pre-determined selective area coverage on request by intelligence in the R&D flights now scheduled. The interim facility requirements should be planned accordingly.

d. Determine the effects of the above on MIDAS and prepare necessary revisions to the MIDAS plans.

4. The proposed SAMOS interim operational capability should be located in the area where it is desired to establish the final operational facility and control center, if appropriate, or can consist of an augmentation to the R&D capability with Air Force personnel rather than contractor personnel responsible for the operation. The plan for this capability must include recommendations for its location with justification for the choice. The current plan is to use a very small portion of the old Martin bomber plant in Omaha with overlapping control systems for MIDAS and SAMOS. The Under Secretary questions the desirability of this plan and reports that CINCNORAD believes this is unacceptable and that MIDAS control, readout, display, etc., must be integrated in a common location with other defense subsystem elements such as those related to BMEWS. Therefore, questions of the following types must be considered in making a new plan for the interim operational capability:

a. Should the Air Force plan ultimately to establish the complete operational data handling, display and control elements of SAMOS and MIDAS at the old Martin Bomber Plant?

b. If not, or if there is serious question as to such desirability, is it sound to reactivate a minute area of this large plant for the interim operational equipment?

c. Should the entire complex be considered as basically a "peacetime" operation with survivability of all or part of the equipment of little importance?

d. Is it necessary or desirable to co-locate data handling and processing facilities with future control centers and should the SAMOS and MIDAS control centers be integrated?

5. Request this headquarters be notified of the earliest possible date that the requested plans can be formally submitted for appropriate briefings and presented to the Air Force Ballistic Missile Committee. ARDC is to act as team captain for the preparation of these plans with other commands participating as necessary. Further guidance will be provided by this headquarters on the questions in paragraph 4.

/signed/ Roscoe C. Wilson

ROSCOE C. WILSON
Lt General, USAF
Deputy Chief of Staff, Development

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